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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G01N 15/02, A61N 5/06		A1	(11) International Publication Number: WO 99/60377
			(43) International Publication Date: 25 November 1999 (25.11.99)
(21) International Application Number: PCT/US99/10947 (22) International Filing Date: 19 May 1999 (19.05.99) (30) Priority Data: 60/085,941 19 May 1998 (19.05.98) US			(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
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(54) Title: APPARATUS AND METHOD FOR DETERMINING TISSUE CHARACTERISTICS			
(57) Abstract			
<p>An apparatus and method embodying the invention include utilizing a device with a limited number of interrogation devices to accomplish a large number of measurements on a target tissue (50). An instrument embodying the invention includes a plurality of detection devices (54) that are arranged in a predetermined pattern on a tissue contacting face of the instrument. The face of the instrument is located adjacent the target tissue (50), and a plurality of tissue characteristic measurement are simultaneously conducted. The detection devices (54) are moved to a new position, preferably without moving the tissue contacting face, and a second plurality of tissue characteristic measurements are simultaneously conducted. By conducting a series of measurements cycles in this manner, the ultimate resolution of the device is increased, while still obtaining a given resolution, which reduces potential cross-talk errors. Further, a plurality of tissue characteristics are simultaneously obtained from locations spaced across the target tissue (50) during each measurement cycle.</p>			